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ABSTRACT

This is a part of the Manitoba Mathematics Assessment Program 1987. Actual testing material and the manual for grade nine are provided. The test (77 items) plus two option sections in Part C requires 70 minutes to be taken. Calculators are permitted for Parts B and C only. The manual describes general testing instructions, administration, scoring method and key, and format for recording the final test scores. (YP)

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№ 04267

MATHEMATICS ASSESSMENT PROGRAM 1987

CURRICULUM DEVELOPMENT AND IMPLEMENTATION BRANCH

GRADE 9

PART A

TIME LIMIT — 20 MINUTES

CALCULATORS ARE NOT ALLOWED

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MAY, 1987

Manitoba Education

SE050 650

BOOKLET "PART A" HAS PAGES 1-8

BOOKLET "PARTS B AND C" HAS PAGES 9-28

PRACTICE QUESTIONS

There are three practice questions. Please try them, and blacken the appropriate circle on the sample answer sheet below. If you wish to change an answer, please erase the first answer completely.

The first one is done for you.

91 Solve for n: $4n = 24$

A) 6
B) 7
C) 22
D) 30
E) 104

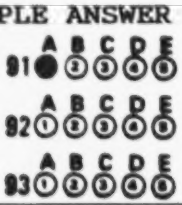
92 The sum of 36 and 6 is

A) 30
B) 42
C) 43
D) 53
E) 216

93 The sum of the measures of the interior angles of a triangle is

A) 30°
B) 60°
C) 90°
D) 180°
E) 360°

SAMPLE ANSWER SHEET



DO NOT CONTINUE UNTIL ASKED TO DO SO.

PART A - QUESTIONS (1 - 25)

1 $(-0.4)(0.5)$ is

A) -2.0
B) -0.2
C) -0.02
D) 0.2
E) 2.0

2 $\frac{3}{5} \div \frac{-9}{10}$ is

A) $-\frac{27}{50}$
B) $-\frac{2}{3}$
C) $-\frac{3}{25}$
D) $\frac{2}{3}$
E) $-1\frac{1}{2}$

3 $-2\frac{1}{3} + 3\frac{4}{9}$ is

A) $-5\frac{7}{9}$
B) $-1\frac{1}{3}$
C) $1\frac{1}{9}$
D) $1\frac{1}{3}$
E) $5\frac{5}{9}$

4 Of the 350 students who go to Mission High, $\frac{2}{5}$ wear glasses. The number of students who wear glasses is

A) 14
B) 35
C) 70
D) 140
E) 210

5 0.52 is equivalent to

A) $\frac{13}{25}$

B) $\frac{21}{50}$

C) $\frac{1}{2}$

D) $\frac{52}{99}$

E) $\frac{13}{50}$

6 $0.\overline{45}$ is equivalent to

A) $\frac{5}{11}$

B) $\frac{5}{9}$

C) $\frac{1}{2}$

D) $\frac{41}{90}$

E) $\frac{9}{20}$

7 If 4:00 p.m. temperatures recorded in January for one week were

2°C, 3°C, -5°C, -4°C, 0°C, 5°C, and 6°C,

then the mean or average temperature for 4:00 p.m. for that week was

A) -3.5°
B) -1°
C) 1°
D) 2°
E) 3.5°

8 An example of an irrational number is

A) $\sqrt{36}$

B) $0.\overline{3}$

C) $\frac{2}{5}$

D) $\sqrt{2}$

E) 65%

9 The square root of 900 is

A) 30
B) 90
C) 300
D) 450
E) 810 000

10 The value of $\sqrt{51}$ is between

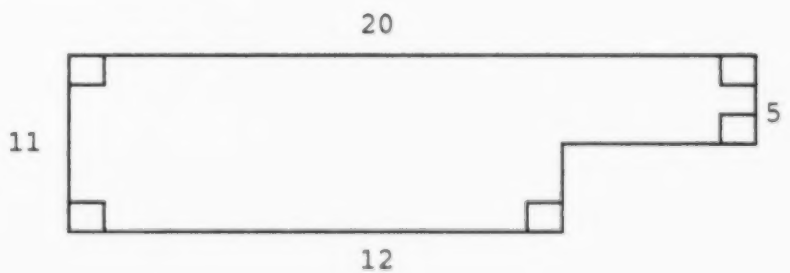
A) 5.5 and 6.0
B) 6.0 and 6.5
C) 6.5 and 7.0
D) 7.0 and 7.5
E) 7.5 and 8.0

11 $(-2)^4$ is equivalent to

A) -32
B) -16
C) -8
D) 8
E) 16

12 The perimeter of this shape is

A) 43
B) 48
C) 54
D) 56
E) 62



13 The numerical coefficient in the expression $-2x^4y^3$ is

A) -2
B) 2
C) 3
D) 4
E) 7

14 The trinomial in the following list is

A) ab^2c^4

B) $-2a + 3c$

C) $-2c(2a - 4b)$

D) $-3a - 5b + 6cd$

E) $-2a + 3b - 4c + 5d$

15 81 in exponential form is equivalent to

A) 3^3

B) 4^3

C) 3^4

D) 2^8

E) 27^3

16 -2^4 is equivalent to

A) -32
B) -16
C) -8
D) 8
E) 16

17 $5(3y + 4z - 8)$ is equivalent to

A) $15y + 20z + 40$
B) $15y + 20z - 8$
C) $15y + 20z - 40$
D) $15y + 4z - 8$
E) $15y + 4z - 40$

18 "Twice the sum of some number and four" may be expressed as

A) $n^2 + 4$

B) $2n = 4$

C) $2n + 4$

D) $2(n + 4)$

E) $2(n)(4)$

19 The 2 in the expression, 2^4, is called the

A) power
B) base
C) exponent
D) numerical coefficient
E) variable

20 Solve for x: $x - 7 = -2$

A) -9
B) -5
C) 5
D) 9
E) 14

21 Solve for y: $5y = -20$

A) -100
B) -15
C) -4
D) 4
E) 15

22 Solve for z: $\frac{z}{-5} = -8$

A) -40

B) -13

C) $1\frac{3}{5}$

D) 13

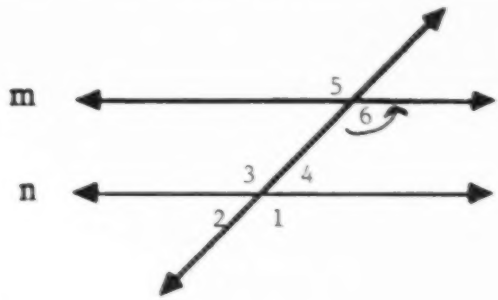
E) 40

23 Solve for w: $3w + 6 = -9$

A) -5
B) -1
C) 0
D) 1
E) 5

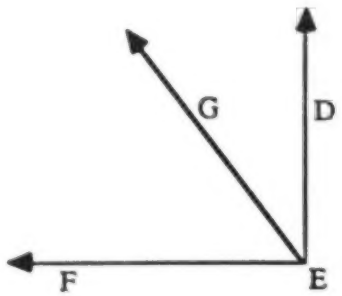
24 If line m and line n are parallel, the corresponding angle to ∠ 6 is

A) ∠ 5
B) ∠ 4
C) ∠ 3
D) ∠ 2
E) ∠ 1



25 ∠DEF is a right angle. The measure of ∠DEG = 43°. The measure of ∠GEF is

A) 147°
B) 137°
C) 57°
D) 53°
E) 47°



YOU ARE NOW FINISHED PART A. USE ANY REMAINING TIME TO CHECK OVER YOUR TEST.

STOP

- THIS IS THE END OF PART A.
- RETURN THIS BOOKLET TO YOUR TEACHER OR TEST SUPERVISOR WHEN ASKED TO DO SO.
- KEEP YOUR ANSWER SHEET TO DO PARTS B AND C.

MATHEMATICS ASSESSMENT PROGRAM 1987

CURRICULUM DEVELOPMENT AND IMPLEMENTATION BRANCH

GRADE 9

PARTS B AND C

TIME LIMIT — 50 MINUTES

CALCULATORS MAY BE USED FOR PARTS B & C

MAY, 1987

Manitoba Education

11

BOOKLET "PART A" HAS PAGES 1-8

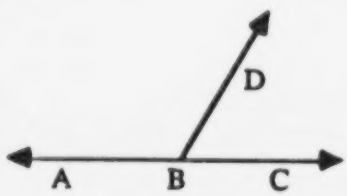
BOOKLET "PARTS B AND C" HAS PAGES 9-28

PART B - QUESTIONS (51-77)

CONTINUE WITH THE SAME ANSWER SHEET THAT YOU USED FOR PART A. THE NUMBERS ON THE ANSWER SHEET MUST MATCH WITH THE QUESTION NUMBERS IN THIS TEST BOOKLET. BEGIN WITH NUMBER 51 ON THE LOWER PART OF THE ANSWER SHEET.

51 Points A, B, and C are on the same straight line. If the measure of $\angle$ ABD is double the measure of $\angle$ DBC, then the measure of $\angle$ABD is

A) 30°
B) 60°
C) 90°
D) 120°
E) 180°



52 On Wednesday, the Canadian dollar was valued at \$0.715 in American funds. On Thursday the Canadian dollar rose \$0.008 and on Friday it fell \$0.014. The value of the Canadian dollar at closing on Friday was

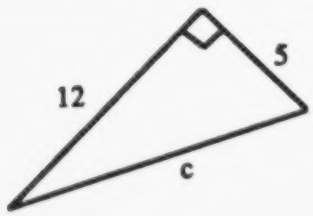
A) \$0.693
B) \$0.709
C) \$0.719
D) \$0.721
E) \$0.737

53 If the rate of sales tax is 6%, the amount of tax paid on an \$850.00 item is

A) \$ 51.00
B) \$ 141.66
C) \$ 510.00
D) \$1416.66
E) \$5100.00

54 In the diagram, the length of the side c is

A) 7
B) $\sqrt{119}$
C) 13
D) 17
E) 169



55 A 10 m ladder leans against the inside wall of a gymnasium with the bottom of the ladder 6 m from the wall. The distance that the ladder reaches up the wall is

A) 4 m
B) 8 m
C) 16 m
D) 64 m
E) $\sqrt{136}$ m

56 $(4y^2)(-2y^3)$ is equivalent to

A) $-8y^6$
B) $-8y^5$
C) $-6y^5$
D) $2y^6$
E) $8y^5$

57 If $x = 1$, $y = 2$, then the value of $-2x - 3y - 5$ is

A) -15
B) -13
C) -1
D) 3
E) 13

58 $10x - 7 - 4x$ is equivalent to

A) $6x^2 - 7$
B) $21x$
C) $14x - 7$
D) $-x$
E) $6x - 7$

59 $(-2x + 3) - (x - 6)$ is equivalent to

A) $-3x - 3$
B) $-x + 9$
C) $-3x + 9$
D) $-x - 3$
E) $-3x - 9$

60 $-3y(y - 3z + 2)$ is equivalent to

A) $-3y^2 + 9yz + 6y$
B) $-3y^2 - 3z + 2$
C) $-3y^2 + 9yz + 6$
D) $-3y^2 - 3yz + 2y$
E) $-3y^2 + 9yz - 6y$

61 $\left(\frac{3}{4}\right)^3$ is equivalent to

A) $\frac{3}{4}$
B) $\frac{9}{16}$
C) $\frac{27}{64}$
D) $\frac{27}{4}$
E) $\frac{9}{4}$

62 Solve for x: $2x - 4 = 4x - 6$

A) -5
B) -1
C) $\frac{1}{3}$
D) 1
E) 5

63 Solve for x: $-2(x + 5) = 18$

A) -14
B) -11.5
C) -4
D) 4
E) 14

64 Solve for x: $-2(x + 6) + 5(x - 4) = 1$

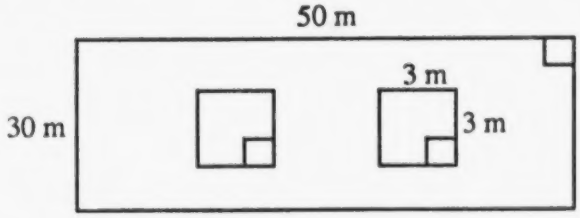
A) $-\frac{1}{3}$
B) 1
C) 3
D) $\frac{17}{3}$
E) 11

65 Solve for x: $5(x - 2) = 2(x - 3)$

A) $-\frac{16}{7}$
B) $-\frac{4}{3}$
C) $\frac{4}{3}$
D) $-\frac{1}{3}$
E) $\frac{7}{3}$

66 The diagram represents a rectangular yard 30 m x 50 m with two square flower beds 3 m x 3 m. If the remainder of the yard is grassed, the area of the grassed portion would be

A) 136 m^2
B) 148 m^2
C) 160 m^2
D) 1482 m^2
E) 1491 m^2



67 There are 2 more girls than boys in a class of 28 students. If n is the number of boys, an equation that represents the number of students in the class is

A) $2 + n = 28$
B) $2n + n = 28$
C) $n + 2 + n = 28$
D) $2n = 28$
E) $2 + n = 28 + n$

68 Twice a number, increased by three, is 48. The number is

A) 15
B) 21
C) 22.5
D) 25.5
E) 43

69 Susan has 3 times as many quarters as dimes. If Susan has a total of $5.95 in dimes and quarters, how many dimes does she have?

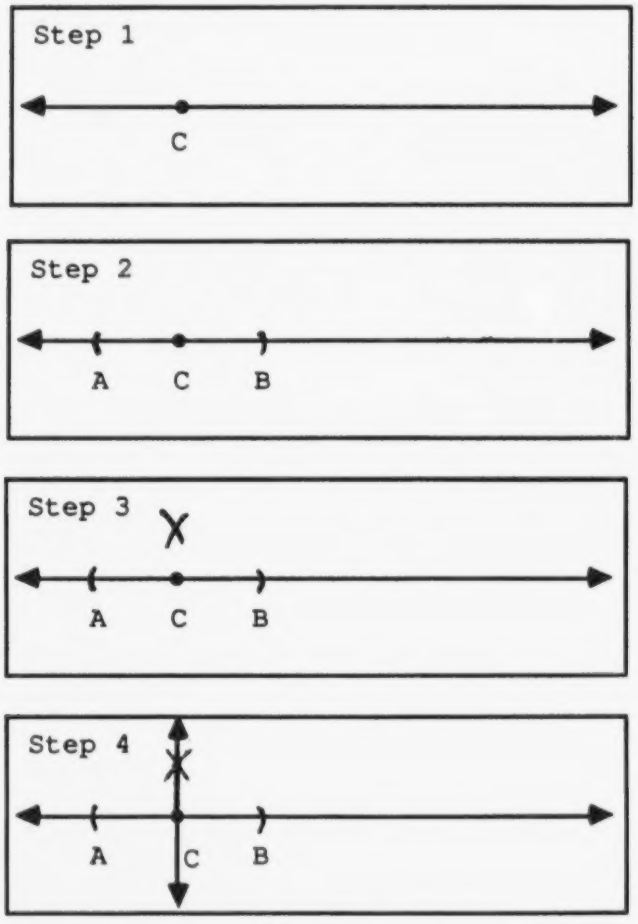
A) 7
B) 8
C) 11
D) 17
E) 45

70 Dennis is one-half Connie's age. The sum of their ages is 24 years. Connie's age is

A) 6
B) 8
C) 12
D) 16
E) 36

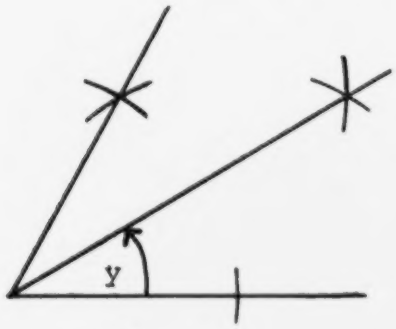
71 The diagrams below show the steps in the construction of

A) A perpendicular to a line from a point on the line
B) The perpendicular bisector of a given line segment
C) An angle congruent to a given angle
D) The bisector of an obtuse angle
E) A perpendicular to a line from a point not on the line



(72) The number of degrees of angle y in the construction is

A) 15
B) 30
C) 45
D) 60
E) 90



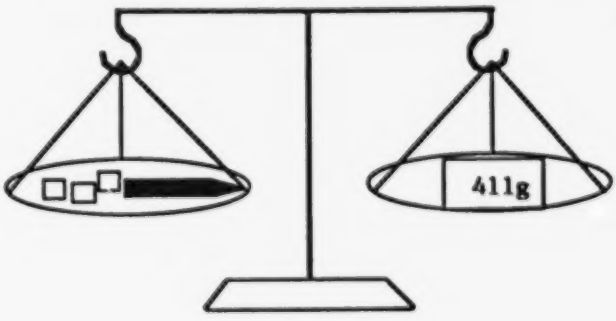
Note: **All arcs are drawn with equal radii.**

(73) Five posts are arranged as shown in the diagram. Ann wants to decorate the room with streamers from each post to all other posts. Consider only one streamer between any two posts. The total number of streamers needed would be

A) 5
B) 9
C) 10
D) 15
E) 20

(74) A pencil and 3 identical cubes are on the left hand side of a balance scale. A 411g block is on the right hand side. The pencil has a mass of 15g. The mass in grams of one cube is

A) 132
B) 137
C) 142
D) 393
E) 396



75 Five students ran in a race. John finished 1 metre ahead of Fred. Fred was not in last place. Sue finished 7 metres ahead of Ed. Ed finished 3 metres behind John. John finished 5 metres behind Kathy. The winner of the race was

A) Ed
B) Fred
C) John
D) Kathy
E) Sue

76 Bob is numbering the pages of a book from 1 to 149. How many digits must he print to number the pages of the book? (NOTE: 89 has 2 digits. 122 has 3 digits.)

A) 333
B) 334
C) 336
D) 337
E) 339

77 The total number of ways to make fifty cents using only nickels, dimes, and any combination of nickels and dimes is

A) 2
B) 4
C) 5
D) 6
E) 8

PART C - OPTIONS

YOU ARE TO DO TWO OPTIONS FROM THE FOLLOWING FIVE. YOUR TEACHER WILL TELL YOU WHICH TWO OPTIONS ARE TO BE DONE

BE SURE THAT THE NUMBERS ON THE ANSWER SHEET MATCH THE NUMBERS OF THE QUESTIONS IN THE OPTIONS YOU DO. NOTE THAT YOU WILL BE USING SIDE 2 OF THE ANSWER SHEET FOR THESE OPTIONS.

OPTIONS		QUESTION NUMBERS
1.	ALGEBRA	101 - 105
2.	CONSUMER RELATED TOPICS	111 - 115
3.	COORDINATE GRAPHING	121 - 125
4.	STATISTICS	131 - 135
5.	GEOMETRY	141 - 145

OPTION 1. ALGEBRA (QUESTIONS 101 - 105)

(101) 0.000 000 28 expressed in scientific notation is

A) 2.8×10^{7}

B) 2.8×10^{-7}

C) 28×10^{8}

D) 28×10^{-8}

E) 0.28×10^{6}

(102) $\frac{6.4 \times 10^{9}}{3.2 \times 10^{3}}$ is equivalent to

A) 2×10^{12}

B) 2×10^{27}

C) 2×10^{-6}

D) 2×10^{3}

E) 2×10^{6}

(103) $\frac{10x^{3}y^{6}}{-5xy^{2}}$ is equivalent to

A) $-2x^{2}y^{4}$

B) $2x^{2}y^{4}$

C) $-2x^{3}y^{3}$

D) $-2x^{3}y^{4}$

E) $2x^{2}y^{3}$

Algebra (Cont'd.)

104 $(-6a^3 - 8a^2 + 12a)$ divided by $(2a)$ is

A) $-3a^3 - 4a + 6$

B) $-3a^2 - 4a + 6$

C) $3a^3 + 4a^2 + 6a$

D) $3a^2 + 4a + 6$

E) $-3a^3 - 4a^2 + 6a$

105 $(x + 3)(x - 2)$ is equivalent to

A) $x^2 + x + 1$

B) $x^2 - x - 6$

C) $x^2 + 6$

D) $x^2 + x - 6$

E) $2x + 1$

OPTION 2. CONSUMER RELATED TOPICS (QUESTIONS 111-115)

111 Betty's gross (total) income per month is $2225.00. If Betty's deductions per month are as listed below, her net income (take-home pay) would be

Income Tax	**$710.90**
Pension	**191.56**
Unemployment Insurance	**59.26**
Union Dues	**40.00**
United Way	**20.00**

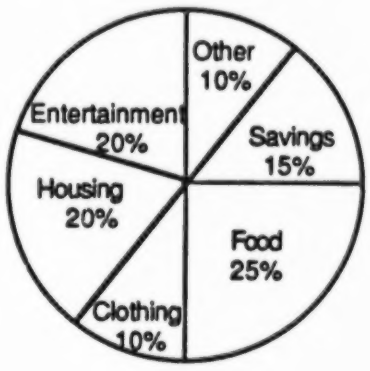
A) $1021.72
B) $1203.28
C) $1204.72
D) $1223.28
E) $3246.72

112 Jack presently earns $15.30 per hour and works a 40 hour week. Jack has a job offer of $476.00 per week. How much more per week does Jack make at his present job?

A) $ 136.00
B) $ 460.70
C) $ 491.30
D) $ 612.00
E) $1088.00

113 The Smith's total income is $37 000 per year. The budget for the Smith family is shown in the circle graph below. The amount of money the Smith's spend on housing is

A) $ 370
B) $ 740
C) $3700
D) $7400
E) $9250



Consumer Options (Cont'd.)

(114) Sam makes $460 a week. He also receives a 5% commission on his sales of $3400 for that week. Sam's total income for the week would be

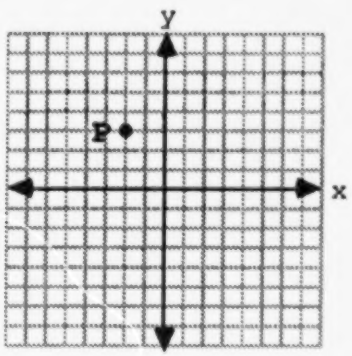
A) $ 170
B) $ 193
C) $ 630
D) $1700
E) $2160

(115) Harry wants to borrow $1800 for one year. The rate of interest is 12%. The amount of interest Harry will have to pay is

A) $ 21.60
B) $ 216.00
C) $1812.00
D) $2016.00
E) $2160.00

OPTION 3. COORDINATE GRAPHING (QUESTIONS 121-125)

(121) The coordinates of the point P are



A) (-3,2)
B) (2,-3)
C) (-3,-2)
D) (-2,3)
E) (-2,-3)

(122) A partial table of values is given for the equation $y = x - 2$.

x	1	3	4	-5	2
y	-1	1	2		

Complete the table.
The last two ordered pairs are

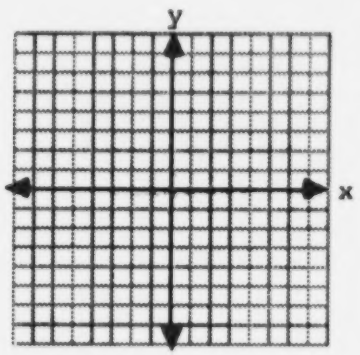
A) (-5,3) and (2,0)
B) (-5,-7) and (2,0)
C) (-5,-7) and (2,4)
D) (-5,7) and (2,4)
E) (-5,3) and (2,4)

(123) The equation $-4x + 2y - 8 = 0$ can be expressed as

A) $y = 2x - 4$
B) $y = -2x - 4$
C) $y = 2x + 4$
D) $y = 4x - 2$
E) $y = 4x + 8$

(124) Graph the two lines on the coordinate graph below

$y = x + 4$
$y = -x - 4$



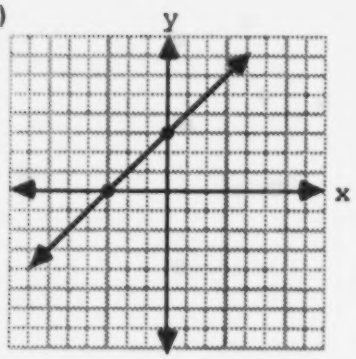
The point of intersection is

A) (4,0)
B) (0,-4)
C) (-4,0)
D) (4,8)
E) (0,4)

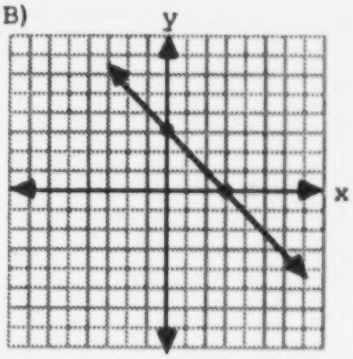
Coordinate Geometry (Cont'd.)

125 The graph which represents the linear equation $y = -x + 3$ is

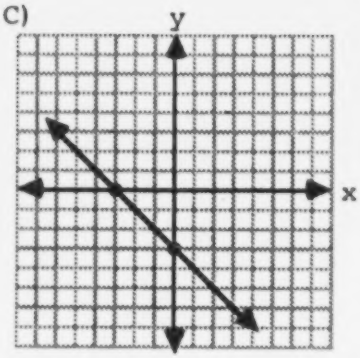
A)



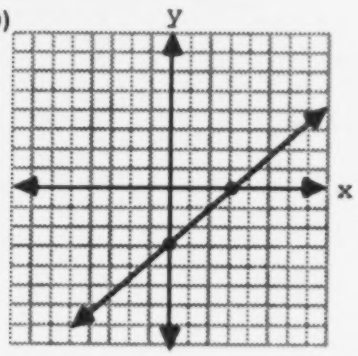
B)



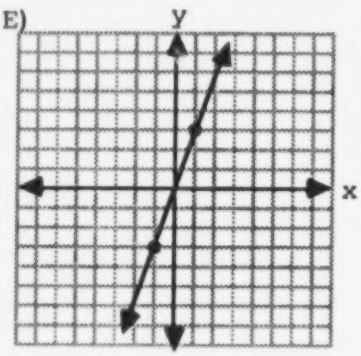
C)



D)



E)



OPTION 4. STATISTICS (QUESTIONS 131 - 135)

(131) The table below represents students' choices for favourite television shows.

Favourite TV Show	Tally	Frequency
COSBY & KIDS	𝍸 𝍸 //	
McGRODER	𝍸 𝍸 𝍸	
DALLUS	𝍸 𝍸 ///	
THREE'S TOO MUCH	///	
FOREVER FREE	𝍸 //	

The total frequency of all favourite television shows is

A) 32
B) 38
C) 42
D) 50
E) 55

(132) For the numbers 8, 10, 9, 2, 14, 8, 19 the median is

A) 2
B) 7
C) 8
D) 9
E) 10

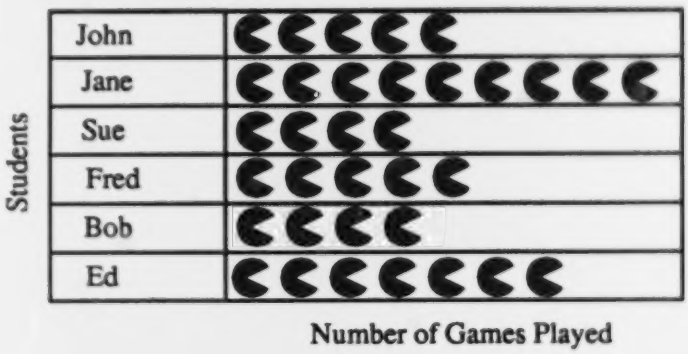
(133) For the numbers 7, 5, 6, 7, 1, 6, 7, 4, 2 the mode is

A) 1
B) 2
C) 5
D) 6
E) 7

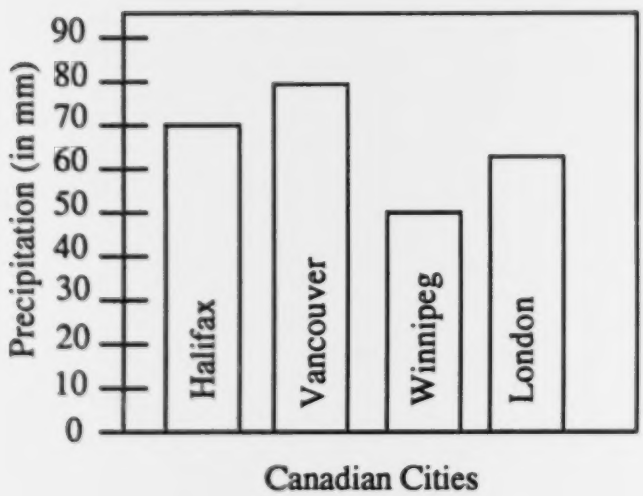
Statistics Options (Cont'd.)

134 The pictograph below represents the number of games played by each student on a team. If the symbol ᗧ represents 5 games played, the difference between the greatest number of games played and the least number of games played is

A) 5
B) 15
C) 20
D) 25
E) 65



135



Considering the bar graph, the true statement is

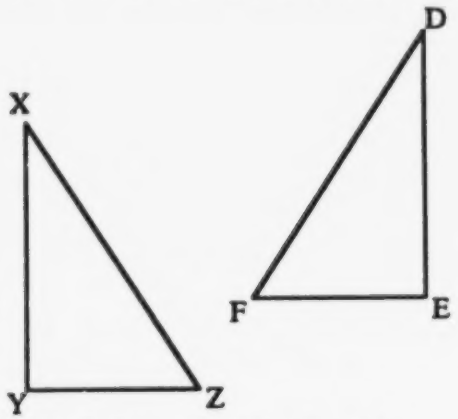
A) Winnipeg has more precipitation than London.
B) Halifax has more precipitation than Vancouver.
C) London and Vancouver altogether had more precipitation than Winnipeg and Halifax.
D) London has less than 60 mm of precipitation.
E) Winnipeg has more than 55 mm of precipitation.

OPTION 5. GEOMETRY (QUESTIONS 141 - 145)

(141) Two polygons are congruent if they

A) have the same shape.
B) are the same size.
C) take the same position.
D) have the same shape and dimensions.
E) are similar.

(142) In the diagram [X,Y,Z] $\cong$ [D,E,F]



The false statement is

A) $\angle X \cong \angle D$

B) $\angle Y \cong \angle E$

C) $\overline{YZ} \cong \overline{DE}$

D) $\overline{DF} \cong \overline{XZ}$

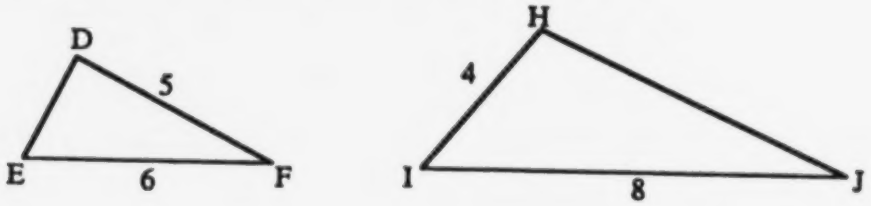
E) $\overline{ZY} \cong \overline{FE}$

(143) Two rectangular table tops are similar. One is 120 cm x 90 cm. If the other table is 160 cm long, its width would be

A) 67.5 cm
B) 90 cm
C) 100 cm
D) 120 cm
E) 213.3 cm

Geometry Option (Cont'd.)

144 In the following diagram $\triangle DEF \sim \triangle HIJ$

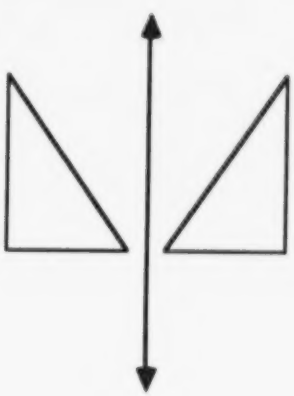


Using the indicated measures, the measure of DE would be

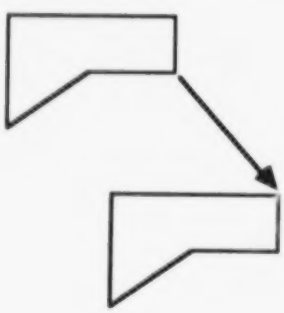
A) 2
B) 3
C) 4
D) 10
E) 12

145 The diagram below which is NOT a congruence transformation is

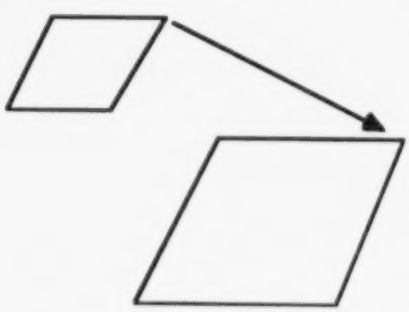
A)



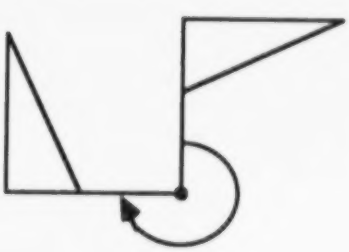
B)



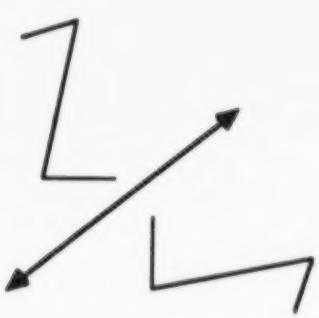
C)



D)



E)



MATHEMATICS ASSESSMENT PROGRAM 1987

GRADE 9

MANUAL AND SCORING KEY

Note to Grade 9 Mathematics Teachers

This grade 9 test includes questions from the 5 option sections of the course (see test - Part C and page 5 of this Manual). Students are to answer questions from **2 options only**. The mathematics teachers are to designate to their students which 2 options they want them to answer. We suggest that this be done during test administration time before the actual testing begins. It is a good idea to list the 2 option numbers and titles along with item numbers conspicuously on the chalkboard. See item 6c, page 3 for special coding in this regard.

Note to French Immersion and Française Teachers

This test manual and grade 9 test makes references to 5 options in the grade 9 mathematics program. These references relate to the English Mathematics Curriculum. However, the Immersion and Française programs consider that the first option (Algebra, items 101 to 105) is actually part of the core program. Therefore, teachers in the French Immersion or Française programs must direct their students to answer the questions in "option 1, Algebra" and 1 of the remaining 4 options.

SE 050 150

MAY, 1987

Manitoba Education

GENERAL TESTING INSTRUCTIONS

1. Please read all instructions carefully before administering the test.

2. Actual test writing time is 70 minutes: 20 minutes for PART A and 50 minutes for PARTS B and C. There will be some additional time required for administration purposes; that is, before the test begins, after the students have completed the booklet with PART A, and after the entire test has been written.

3. You must tell students which 2 option sections (in Part C) they are to write.

4. Students should be asked to bring reading or study material with them to use when they complete the test. Some may finish the test before the end of the allotted time.

5. Students will respond to the test on NCS answer sheets.

6. Detailed instructions for administering the test appear on pages 3-4 of the Manual.

7. Students must use pencils for answering the questions. Ball point pens must not be used.

8. No rulers are permitted during the test. Calculators are permitted for Parts B and C only. Scratch paper is permitted.

9. You may pronounce a word for a student but you should not explain the meaning, or provide any other assistance in clarifying questions.

10. There is no penalty for guessing. Students may guess if they are not completely sure of the right answer.

Test Format

The entire testing process requires approximately 80 minutes to complete, including:

a) 10 minutes administration time
b) 20 minutes - Part A
c) 50 minutes, Parts B and C

Required Materials

1. Grade 9 Manual (including Scoring Key)
2. 2 test booklets for each student
    1) PART A
    2) PARTS B AND C
3. Answer sheets
4. Soft lead pencils, and erasers - school supplied
5. Calculators for Parts B and C only - school or student supplied.

(This appears as page 1 in the student test booklet.)

PRACTICE QUESTIONS

There are three practice questions. Please try them, and blacken the appropriate circle on the sample answer sheet below. If you wish to change an answer, please erase the first answer completely.

The first one is done for you.

91 Solve for n: $4n = 24$

A) 6
B) 7
C) 22
D) 30
E) 104

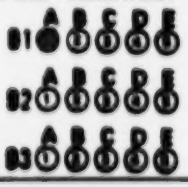
92 The sum of 36 and 6 is

A) 30
B) 42
C) 43
D) 53
E) 216

93 The sum of the measures of the interior angles of a triangle is

A) 30°
B) 60°
C) 90°
D) 180°
E) 360°

SAMPLE ANSWER SHEET



DO NOT CONTINUE UNTIL ASKED TO DO SO.

ADMINISTERING THE TEST

1. Describe the nature and length of the test and the testing procedure to the students. Include in your description the following:

   Depending on your mathematics background, the questions in this test may be easy or they may be difficult. Regardless of the mathematics you have had, it is important that you try each question.

READ ALOUD:

The test is in two parts, Part A will require 20 minutes. Parts B and C together will require 50 minutes. You may use a calculator for Parts B and C only. At the end of 20 minutes I will collect the booklet for Part A and hand out the booklet for Parts B and C. If you finish either booklet before the time is up, use the remaining time to go back over your work.

2. Ensure that desks are cleared.

3. Each student should have at least one sharpened lead pencil and an eraser. You may provide scratch paper.

4. Pass out the answer sheets. Instruct students to:

   - Print their names in the boxes provided at the top left corner of Side 1. Do not have them blacken the circles underneath the letters.

   - Blacken the appropriate circles for sex and grade.

5. Instruct students not to open their test booklets until told to do so. Pass out test booklets, PART A.

6. **CODING**

a) Each PART A test booklet has a unique booklet number. Instruct students to print their test booklet numbers in the "Identification Number" boxes A-E of the answer sheet and to blacken the appropriate circles.

b) Each school has a unique 4-digit school code. Your school code is with your testing materials. Instruct students to write this code in the "special codes" boxes K-N of the answer sheets and to blacken the appropriate circles.

c) Instruct students to write the numbers of the 2 designated options in PART C in the "Special Codes" boxes O-P of the student answer sheets and to blacken the appropriate circles. These 2 selected options are the only 2 that will be scored for assessment purposes (see p.5 for option numbers).

Please verify that all coding in #6 has been done correctly.

READ ALOUD

All answers are to be marked on your answer sheet. Blacken the circle on the answer sheet that corresponds to your answer. If you wish to change an answer, be sure to erase completely your first answer. Try your best on each question even if you are not completely sure.

7. Have students turn to the sample test items on page 1 of their booklets and answer them on the sample answer sheet at the bottom of the page (see page 2 of this Manual). Go over these responses with the students, being sure that they have answered correctly. Answer any student questions.

8. Have students turn to page 2 of the test booklet and begin. Note the starting time. (Please check to see that students are on the appropriate part of the answer sheet.)

9. After exactly 20 minutes -

READ ALOUD

STOP. Put down your pencil and hand in your test booklet for Part A. You may now take out your calculators for Parts B and C.

10. Now distribute the booklets containing PARTS B and C.

READ ALOUD

We will now do Parts B and C. Remember that in Part C you are to write only the option sections _____ and _____ (designated by teacher). Note also that Part C uses Side 2 of the answer sheet. Now begin Part B at space 51 on side 1 of your answer sheet.

(Note the starting time and check from time to time to see that students are on the appropriate part of the answer sheet.)

11. At the end of exactly 50 minutes of testing time for Parts B and C, instruct students to STOP writing. Collect all answer sheets and test booklets.

12. Booklets may be retained by the school for future use.

13. Return mailing instructions have been sent to principals.

SCORING

It is recommended that the tests be scored according to clusters of items, or subtests. Subtest scores are more meaningful than a total test score. For each item the scoring key on the next page indicates:

1) the correct answer

2) the subtest to which the item belongs.

Subtests	Item Numbers	
	Part A	**Part B**
1. Real Number System	1-3,5,6,8-11, 15,16	54,61
2. Construction Geometry	24,25	51,71,72
3. Open Expressions	13,14, 17-19	56-60
4. Equations	20-23	62-65
5. Word Problems (routine)	4,7,12,	52,53,55 66-70
6. Word Problems (nonroutine)		73-77
7. Options (Do 2 of 5)	**Part C**	

OPTION NO.		
1	Algebra	101-105
2	Consumer Related Topics	111-115
3	Coordinate Graphing	121-125
4	Statistics	131-135
5	Geometry	141-145

SCORING KEY - Grade 9

Item Number	Correct Answer	Subtest
PART A		
1	B	1
2	B	1
3	C	1
4	D	5
5	A	1
6	A	1
7	C	5
8	D	1
9	A	1
10	D	1
11	E	1
12	E	5
13	A	3
14	D	3
15	C	1
16	B	1
17	C	3
18	D	3
19	B	3
20	C	4
21	C	4
22	E	4
23	A	4
24	E	2
25	E	2
PART B		
51	D	2
52	B	5
53	A	5
54	C	1
55	B	5
56	B	3
57	B	3
58	E	3
59	C	3
60	E	3
61	C	1
62	D	4
63	A	4
64	E	4
65	C	4
66	D	5
67	C	5
68	C	5
69	A	5
70	D	5
71	A	2
72	B	2
73	C	6
74	A	6
75	D	6
76	E	6
77	D	6
PART C - OPTIONS		
Algebra		
101	B	1
102	E	1
103	A	1
104	B	1
105	D	1
Consumer Related Topics		
111	B	2
112	A	2
113	D	2
114	C	2
115	B	2
Coordinate Graphing		
121	D	3
122	B	3
123	C	3
124	C	3
125	B	3
Statistics		
131	D	4
132	D	4
133	E	4
134	D	4
135	C	4
Geometry		
141	D	5
142	C	5
143	D	5
144	B	5
145	C	5

MATHEMATICS ASSESSMENT PROGRAM 1987
FINAL TEST SCORES - GRADE 9

Subtests and Number of Items per Subtest:

Student Names	PARTS A & B						PART C				
	Subtest						Algebra	Consumer Topics	Coordinate Graphing	Statistics	Geometry
	1 13	2 5	3 10	4 8	5 11	6 5	1 5	2 5	3 5	4 5	5 5